THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1217. NOVEMBER 4, 1911. VOL. XXIV.

THE REGISTER OF 1912.

The Register R.C.V.S. undergoes its final revision during the last few weeks of the year; all changes of address should therefore be notified to the Registrar during the present month if possible, or at least early next month.

We mention the matter for a two-fold reason—partly as a reminder to those members who have changed their address during the year, and partly in the hope of inducing the larger number who may be able to help the Registrar in tracing missing men to do so. Some practitioners are very careless about notifying their changes of address, but not many disappear so completely as to leave all their professional acquaintance ignorant of their whereabouts; and most of us, from time to time, find ourselves possessed of information which may help the Registrar in tracing them. Any such information is just now of material assistance. It may help to keep a careless colleague out of trouble; it will certainly be doing something to increase the accuracy of the Register, and every member should feel it his duty to assist the Registrar in this direction whenever he can.

MOTOR CARS IN VETERINARY PRACTICE.

Our profession did not welcome the advent of motor cars; but they have now become a necessity in many veterinary practices. Probably more members would be using them now than are doing so, were it not for the fact that there is still a good deal of uncertainty regarding the cost of their upkeep. Motorists are often very hazy upon this point; for the majority are well-to-do men who use motors chiefly as luxuries and pay no great attention to their cost. Not many motorists, again, take the trouble to keep reliable records of their mileage: and these are essential to any accurate estimate of the annual cost. The result is that, even in these days, men who contemplate adopting motor traction for professional purposes often find it difficult to forecast the working cost of the change.

Mr. Henry Taylor last week furnished the profession with a short note upon the annual upkeep of one type of small car. Possibly other veterinary motorists also possess reliable figures, and, if so, a comparison of notes might be valuable. A motor-car can travel so much farther and faster than a horse that there is no question of its utility in a busy practice, especially a country one. But there is still doubt, in the minds of many practitioners, as to how its cost compares with that of horse-flesh: definite information on the question will be of assistance in arriving at a conclusion.

STRANGULATED INTESTINE BY MESENTERIC TUMOUR.

I enclose photo of a curious lipoma.

On Saturday the horse, a black hunter gelding (aged), had a fairly stiff day's cub hunting. After returning home he appeared perfectly well, and nothing was noticed until about five in the evening, when he had a sharp attack of colic. He was given a colic draught and I was called in.

On examination I found that he was sweating profusely; the pulse was very fast and thin, but he did not appear in much pain. I gave a dose of physic. Later in the evening I was again called and found that he was showing signs of pain; pulse about the same. He continued to have sharp short attacks of pain at varied intervals until Monday morning at 7 o'clock, when he died. His appearance gave one the suggestion of an animal with a twisted intestine. The only treatment employed after the physic was a sedative, and enemata.

Post-mortem showed a tumour of fatty nature suspended from the mesentery by a pedicle some eight inches long, and attached some six inches below the right kidney to the muscular wall of the abdomen, leaving a small foramen about two inches

across through which a loop of intestine had become snared. I tried to pull the trapped bowel out, but was unable to do so. On making an incision round the base of the tumour, the intestine was shown lying in a pocket in the form of the letter U. The rough diagram shows how at the point of entry and exit both parts were extremely constricted.

Thinking this might be of interest, I had it photographed and send it to you for *The Record* if you think it is of sufficient interest.

WILLIAM S. MULVEY.

Chelmsford, Oct. 24.

ANEURISM OF THE POSTERIOR AORTA.

Subject.—A thoroughbred brood mare in foal, aged, 16 hands.

The mare was unboxed at Harbour apparently all right, and was moved to stables and ate her feed, and within a quarter of an hour was found dead in the position as depicted by photo. As the animal was dead ere I arrived, and being heavily insured I had a photograph taken of the exact position, and made a post-mortem same day, which revealed that the cause of death was due to "rupture of the posterior aorta," the vessel wall of which was in an atheromatous condition. The animal was not tied up, or cast in loose box, and died without a struggle in the peculiar position. Aneurism not verminous.

HENRY B. EVE, M.R.C.V.S.

Folkestone.

ACORN POISONING.

There is an enormous crop of acorns this year, and many cases of poisoning of cattle after eating them have been reported. So far this autumn I have only had one animal, a yearling heifer, dead from this cause, though I have seen a good many mild cases that only amounted to indigestion and constipation.

It is interesting in this connection to point out that acorn poisoning in cattle appears to be confined to this country. Professor Fröhner, in his text-book of Veterinary Toxicology, states that this poisoning is mostly seen in England, and the only authorities he quotes are English, Pugh and Thorburn, though he observes that Schütz had seen indigestion and constipation in cattle after feeding on oak leaves and acorns. It certainly does seem curious that in this country many young cattle die every autumn from acorn poisoning, while no fatal cases are recorded by continental authorities.

Of course a possible explanation is that abroad acorns are more carefully gathered to be fed to swine or to adult cattle or sheep, and not left below the trees as they are in this country.

In contrast to this absence of acorn poisoning in Germany, poisoning by equisetum appears to be very common there, while here we seldom get a case recorded. It does occur, however, and I have seen it several times, and always in cows. The patient behaves very much like it might be expected to do after a large dose of alcohol. It is excited, staggers about, falls, and after a time gets drowsy and even semi-comatose. The symptoms are not dissimilar from those of milk fever. The animals mostly recover.

W. R. DAVIS.

Enfield.

ABSTRACTS FROM FOREIGN JOURNALS.

THE TREATMENT OF MANGE IN HORSES.

Boudeand discusses (*Revue Générale de Méd. Vét.*) the treatment of equine sarcoptic mange. He advises abstention from the use of all prescriptions which contain petroleum, benzine, or oil of turpentine as a base. These agents irritate the skin, and the action they exert is slow. In consequence of the latter property, numerous applications are necessary, and their use thus becomes costly.

Boudeand recommends an old formula as being always serviceable. He says that a single application of it cures the most obstinate forms of mange without irritation or inflammation of the skin. It is made up of powdered cevadilla seeds, 10 parts, sulphur sublim. 6 parts, burnt alum 4 parts, and oil (exact kind not specified) 100 parts. This mixture should be digested with continuous stirring for at least an hour.

The animal is completely rubbed over by means of two applications (one for each half of the body), with an interval of 48 hours between them. Before the second half of the body is treated, the already dressed first half should be washed with soap and water. In old-standing cases of mange, it is also advisable to thoroughly cleanse the skin with soap and water before commencing treatment. —(*Berliner Tier. Woch.*)

(Cevadilla is now little used, in this country at least, and the note is therefore of some interest.—TRANSL.)

A Specific Septicæmia of Calves.

Gerspach, of Messkirch, in a communication to a veterinary society at Baden, says that a disease of calves produced by capsuled diplococci is not unknown in that district. Most of the animals attacked are in the sucking age, but it seems immaterial whether they have been fed by the mother or from a bucket. The chief symptoms are loss of appetite, abdominal pain, diarrhœa, difficulty of breathing, and convulsions, and the duration of the illness is from half a day to three days.

The post-mortem appearances suggest anthrax or petechial fever, as there is enormous swelling of the spleen, with numerous hæmorrhages. The gastro-intestinal canal is often the seat of a violent sanguineous inflammation, and numerous hæmorrhages exist upon the serous membranes, the diaphragm, etc. Lesions of the navel or the joints are not demonstratable.

The diplococci are demonstrated without difficulty in the spleen, the mesenteric glands, the blood, the liver, and the tissue juices. The capsule is brought very well into view by staining with a 2% solution of gentian violet and decolourising with dilute acetic acid.

Infection takes place by ingestion. Great cleanliness, and the application of an efficient muzzle to prevent the eating of straw, are recommended as prophylactic measures.—*Berliner Tier. Woch.*

Phosphorous Poisoning in Poultry.

A campaign against rats, prompted by the danger of bubonic plague, has of late been instituted in Hamburg; and phosphorous paste has been largely employed for this purpose. As a result, phosphorous poisonous in poultry, which was previously seldom observed, is now not rare.

Prof. Glage, of Hamburg, summarises his experience of this condition, which he has not yet had the opportunity of observing except in poultry. Poultry seem to have a great appetite for phosphorous as soon as it is accessible to them, for as a rule single birds are not affected. A great number—not uncommonly nearly the whole stock—are almost always poisoned together. In many of Glage's cases this had led to the suspicion of contagious disease as the cause of death.

Glage adds nothing to the classic descriptions of the symptoms of phosphorous poisoning during life. He remarks, however, upon its rapid course. Often many birds die in a few hours; and in one case a whole stock of eleven fowls died within twenty-four hours.

The post-mortem appearances are very characteristic. The ingesta, especially the contents of the crop and gizzard, possess a strong smell of phosphorous, such as used to accompany the kindling of the phosphorous lucifer matches which were formerly used. Not uncommonly, when the crop is opened, white fumes are seen arising from its contents. The organs, also, and even the blood of the heart, give off the characteristic odour of phosphorous, though not to so high a degree as the contents of the crop and gizzard. Luminosity of the ingesta, in Glage's experience, is less frequently observed. Of the organic lesions, apart from local inflammatory changes of the alimentary mucous membrane, a very well-marked fatty degeneration of the parenchymatous organs is always the most prominent.

The proportion of phosphorous in rat poison is naturally large, and the fowls poisoned by it certainly received much more than the lethal dose. The whole body, especially the contents of the crop, was so charged with phosphorous that in every one of Glage's cases the lesions were very marked. When the history, the lesions, and the characteristic smell of phosphorous alike indicate this as the cause of death, Glage considers chemical examination superfluous; but nevertheless he has always undertaken it to render his diagnosis incontestable. For this purpose he recommends the method of Scheerer, which is based upon the reducibility of silver salts by phosphorous and phosphoric acids.—*Berliner Tier. Woch.*

Spirochætæ in the Gastric Mucous Membrane of the Dog.

Regaud has already discovered and reported the common presence of spirochætæ analagous to those of syphilis in the normal gastric mucous membrane of the dog and cat. Ball and Roquet now report (*Journal de Méd. Vét.*) the result of examinations of the stomachs and intestines of dogs which they have made with a view of determining whether any relation exists between these parasites and the hæmorrhagic gastro-enteric affections of the dog.

These authors propose to call the parasite in question *Spirochæte Regaudi*, after its discoverer. They consider, however, that these spirochætæ have no relation with hæmorrhagic gastro-enteritis, and in this opinion they are supported by Lucet, The spirochætæ are commonly found in the mucous membrane, and are as frequent in normal stomachs as in those showing inflammatory and hæmorrhagic lesions.

The organisms are observed in two forms—long forms showing seven to twelve spirals, and short

ones showing two to six spirals. Preparations obtained by scraping the mucous membrane may be quickly and easily stained by the following procedure. (1) Make a saturated solution of methyl violet 5 B in absolute alcohol. (2) Place from ten to twenty drops of this saturated solution in 10 c.c. of distilled water, and then filter. (3) Stain the preparations, previously fixed by heat or by a mixture of equal parts of absolute alcohol and ether, for from five to ten minutes.

By this method the spirochætæ are stained a dark violet. A 1/6 inch objective may be employed for their examination; but an immersion lens is preferable.—(*Annales de Méd. Vét.*)

W. R. C.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION

The largest attendance secured at a meeting of the Association for some years foregathered at the Albion Hotel, Lincoln, on Friday, Oct. 20th, under the presidency of Mr. W. Grasby, of Daventry, the chief attraction being a demonstration and address by Prof. F. Hobday, upon Dr. Williams' operation for roaring in horses. Supporting the President were Messrs. T. Holmes, Bourne; and G. B. Dickinson, Boston, Vice-Presidents; F. L. Gooch, Stamford; C. Hartley, and C. Hartley, junr., Lincoln: T. Hicks and A. D. Lalor, Sleaford. G. Lockwood, J. Mackinder, Peterborough: J. H. Poles, Whittlesey; T. A. Rudkin, Grantham; T. B. Bindloss, Long Sutton; T. J. Keall, Gainsborough: the visitors including Messrs. L. A. Leach, junr., F. B. Gresham, R. C. Matthews, A. R. Routledge, Louth.

The Hon. Sec. (Mr. C. W. Townsend) was prevented from being present owing to having met with a serious accident a few days before, and the meeting was unanimous in an expression of sympathy with him at its occurrence and hoped for a speedy recovery.

The minutes as published in *The Veterinary Record* were taken as read.

The Kirk Appeal Fund.

The President read a letter from Mr. H. A. Woodruff, pressing the case of Mr. Wm. Kirk in the appeal raised by the London County Council to compel veterinary surgeons to pay for the use of the College crest.

Mr. J. Mackinder said he had written the Inland Revenue on the matter and they said there was no liability.

Mr. Gooch said he hoped that would be made public, as a veterinary surgeon had been fined for using the crest.

On the proposition of Mr. Holmes, seconded by Mr. Lalor, it was decided that subscriptions should be left to the inclinations of the members.

The Proposed Amalgamation.

Two letters were read from Mr. A. Gofton, the Hon. Sec. of the Royal (Dick) Veterinary College, Edinburgh, with regard to the proposed amalgamation of Veterinary Societies.

The President said the Lincolnshire Society had already expressed its approval of becoming affiliated to the National Association in accordance with the new rules, and on the motion of Mr. Gooch, seconded by Mr. Holmes, this was confirmed, the Secretary to inform Mr. Gofton of the fact.

New Members.

Mr. Henry Leach, Boston, was elected a member of the Association, on proposition of Mr. C. Hartley seconded by the President.

Messrs. F. W. Medlock, Peterborough, and A. C. Comerford, Caxton, Cambs., proposed at the Peterborough meeting in June, were duly balloted for and elected members.

Mr. R. C. Matthews, Metheringham, was nominated as a member by Mr. Holmes, seconded by Mr. Lalor.

The Value of the Venticle Stripping Operation for Roaring in Horses.

By Prof. Fredk. Hobday, F.R.C.V.S., F.R.S.E.

Gentlemen,—My address to you to-day will be a very short one. You have in the last two years heard much about it; yet in reality the real interest in the operation I bring before you lies all in front, and in fact the operation is only in its trial stage, It is the ventricle stripping operation for the relief of roaring. Within the last two hunting seasons—now entering the third—I have operated upon more than 480 patients. About March I shall be able to give to the profession some statistics which may be of value, if only they show that a reasonable proportion of useless animals have been made useful, and then I shall maintain that the operation is justifiable, and if, in addition to satisfying the owners, one can also satisfy the members of the profession then the results will be doubly justified.

Up to the present the results which have been published are sufficiently good to make one assert very emphatically that the operation has come to stay, and to take its proper place as one of those which the modern veterinarian may recommend to his client, affording, as it does, a reasonable prospect of alleviating a very distressful condition, even if not effecting a complete cure.

The actual technique of the operation has already been described before various societies, and in the journals; on the first occasion by Williams, in the paper he read before the American Veterinary Association in 1906, and although there have been some few modifications, especially in the avoidance of injury to the cartilage, the principles are still the same. I must lay claim to a few originalities in these modifications, and I find upon recently discussing the operation with Dr. Williams that Dr. Cary and certain operators on the other side of the Atlantic were working at the same idea at about, if not at, the same time. I refer principally to the idea of operating only through the crico-thyroid ligament without injuring either the thyroid or cricoid cartilage, and to the stripping of both ventricles.

In reference to the latter I have altogether operated now upon over 480 individual horses, more than 200 of which have systematically had the double stripping operation done at the one and the same time, but unluckily such a large proportion of them will not be tested until the next season's hunting commences that I cannot in the present paper give you statistics as to the actual results. I will, however, promise that you shall have them presently.

I am undecided for the moment as to whether it is wiser to strip both at the one time, or to do the left or the paralysed side first, see the result, and then, if necessary, operate on the other some months later. I have about 20 horses now upon which this plan has been adopted, and certainly in some of them the results have been marvellous. They were all hunters and bad roarers, and the stripping of the left side alleviated the distress, although they still make considerable noise, whilst the second operation some months later has caused still further amelioration, and in at least two cases has enabled the animals to pass veterinary examinations for soundness in wind without comment. It is a plan I have adopted recently in several instances where the horses were of great monetary value, and the time was of no particular object provided the risk was lessened. Everybody, owner and groom alike, dislike the idea of the permanent use of the tracheotomy tube,

partly because of the constant trouble of cleansing, and partly on account of granulations and subsequent stenosis which so often follow as a sequel, and numbers of owners have volunteered the statement that if this operation only saves the animal so that it can work without distress, even if still making a noise, they will have it done. Others have gone so far as to say that even if it only gives them one more hunting season, and the tube has to be inserted eventually they will be grateful.

The operations, however, promise more than this, and I don't think I am exaggerating one bit when I say that it will restore to usefuluess quite 90 per cent. of carriage or draught horses, and 75 per cent. of hunters, and that a decent proportion of these shall in addition pass the average veterinary surgeon's examination for soundness in wind. I believe, too, the effect is generally lastihg and permanent, as there are now a number under observation in England which have been done about two years, and whose owners assert that they are still satisfactory as to wind.

It has been of particular interest to note the complete adhesion of the ventricle in the cases in which I opened the larynx a second time. Certainly there were some in which the result appeared to be all I could have desired with the left side, and yet the horses made considerable noise until the right ventricle had been treated in the same way. But in others there had not been complete closure, and at the top end there was enough orifice to admit the end of the middle or fore finger.

In regard to early interference I have hesitated to advise owners to have an animal done which was only a slight whistler, but several have had them done on their own initiative, and I must say that the results have certainly been excellent, and several horses have been reported afterwards, when tested, to be sound in wind. I have at the end of the hunting season done a fair number which were only reported as whistlers, but my statistics on the point cannot be complete until more time has elapsed.

I say this advisedly because if chondritis proves at all a sequel to be dreaded even by the most careful operator, then I maintain that it will be better to advise an owner with a whistler, which is not distressed and does not cause great annoyance, to work that horse another season, or until he really is a roarer. If on the other hand, a great proportion of these whistlers become sound horses in so far as their wind is concerned, and the result is permanent, I shall certainly advise in the future that the operation is done in the early stages of the disease.

I mention the fear of the chondritis afterwards because it is a very serious factor to consider, and I know, too, that it was the great bugbear to Möller, Cadiot, Flannery, Fred. Smith, Axe, Raymond, and others who performed arytenoidectomy, but until the end of May this year (over 18 months since the first operation was demonstrated in England) I had never met with a single case, or even suspicions of it. In the month of May last I saw three cases, and one other was reported to me, in all of which the larynx had become distinctly enlarged and very hard, in fact ossified, as a sequel to the operation. In three of these I verified the fact by cutting down to the larynx and exposing it. None of the horses have yet died, so that I have no larynx to show you. I decided not to open it nor to look inside, as I was afraid I might not get the wound to heal again, and two of the horses were useful enough and could gallop without distress, although making considerable noise. Two of these had had the left ventricle alone stripped, and the other two had been through the bilateral operation. The other two had begun to develop symptoms of dyspnœa when galloped, and before being hunted again would certainly have to be tubed.

I mentioned above that I did not re-open the ossified larynx, as I feared it might not heal readily, and my reason for this was that I knew that sometimes a troublesome sinus formed which was very difficult to close, in fact one such instance had occurred amongst my own cases.

I have thought from observations made that to assist in avoiding both the above complications, the patients should not afterwards be turned out to grass, but be manger fed, partly because of the dependent position of the head during grazing, and partly because of the continuous movement of the muscle of the larynx and throat for so long a period of the day as is necessitated by a horse turned out to pasture. Until the parts of the injured larynx be completely cicatrized I think it to be very essential that this organ and its surrounding muscles and other structures should be allowed as much rest as possible.

Of the bad sequelæ likely to follow as the result of the operation, in addition to the fear of chondritis and a troublesome sinus, as mentioned above, my own experience has brought me in contact with deaths from asphysia and from septicæmia, and of each I have had two instances. Until case No. 206, I never had the slightest anxiety or trouble, but this one broke the record by dying of septicæmia. It was a troop horse in a cavalry regiment, and the veterinary officer (Capt. Hylton Jolliffe, F.R.C.V.S.) and myself thought that we should get a better and quicker adhesion of the right vocal cord (which moved freely) by performing tracheotomy at the same time. This we did, but my knowledge of physiology was defective or I should have known that the mere fact of respiratory air passing in and out of the tubes of the trachea made no difference whatever to the movement of the vocal cord. A septic infection took place—a condition which might of course have occurred as the sequel to any operation, and the patient died on the fifth day afterwards. The second septicæmia case also died on the 5th day.

The deaths from asphyxia are worth recording, because they will prove a warning to other operators to carefully watch the case during the 48 hours after the operation. Both were horses which had previously worn tracheotomy tubes for some time, and in one case there was extensive stenosis of the trachea. I ought to have left the tubes in until after they had become convalescent from the larynxgeal wound, but in the one case I allowed it to heal up before operating, and in the other case I purposely closed it up at the same time that the ventricle mucous membranes were stripped. In each case a very sudden spasm of the larynx appeared to take place, and death occurred in a few minutes from asphyxia before tracheotomy could be performed, or even a laryngeal tube inserted.

Since introducing the double stripping operation as a routine measure, tracheotomy has had to be performed several times owing to threatened asphyxia, and the tube left *in situ* for an average period of three or four days, but this is a comparatively minor matter in a hunter, although annoying in a show animal, and the use of a larynxgeal tube is better. I have had one made with flattened sides so that the vocal cords do not become impinged upon more than is necessary, for fear of ulceration or abrasion. All these occurred after double stripping, and usually within 24 hours, but we always keep the patient under close observation for 48 hours, and in two instances no disturbance of respiration occurred until the third day afterwards, although these were not alarming enough to necessitate tracheotomy.

The earliest time at which symptoms of dyspnœa occurred was three hours afterwards, but the majority showed signs of trouble between the 5th and 12th hours. The dyspnœa, œdema and swelling of the vocal cords are due to a sudden spasm or paralysis of those organs, and generally one has at least a couple of hours warning in the shape of disturbed and noisy breathing which

gradually becomes dyspnœic. Tracheotomy gives instant relief, and the horse in half an hour is usually feeding calmly as if nothing had happened.

It would be impossible in a short paper like this to take note of every side of the question, but I am often asked whether a horse which is known to have been so treated should be passed as sound. That they had been, and that many more will be, I am quite convinced, for I will defy even a veterinary surgeon to detect this scar in fully 80% of the patients six months after the operation, and until three months ago I would certainly have advised a client that a hunter which had been operated upon a period of six months earlier for roaring, and was now noiseless, would be worth more than a horse which had not been done and might go wrong in wind any time. Since seeing the four cases of chondritis and ossification of the larynx which I have alluded to above, I think it is only fair that we shall know more about the percentage of this sequel before offering too decisive an opinion.

Time and careful observation alone can settle the point, as also whether one is justified in operating upon a stallion or brood mare. For my own part I fully admit the hereditary aspect of the question. I also know full well that strangles plays an equally large share in the production of roarers and whistlers. Eliminate these two factors, heredity and strangles, and one would almost banish roarers off the face of the earth.

In reference to the detection of the fact whether an animal has been operated upon or not, as I have stated, it is often quite impossible to detect any scar, and even if one is present it is often almost indistinguishable from the curl in the hair which is often present in this situation. The only sure method I know is to make an effort to cause the horse to attempt to neigh. With a mare having a foal at foot, remove it and allow her to attempt to approach it; or, if possible, starve the subject for some hours and rattle a stable bucket within earshot; the resulting effort to neigh gives a totally different sound to that of a healthy horse, for the animal will either be dumb, or neigh with a peculiar muffled effect.

No operation cures every case upon which it is tried, and the operation for roaring is no exception to the rule, but the *technique* advised by our American colleague, Dr. Williams, has been so encouraging that we cannot but feel that we are at last upon the right trail, and that owners and veterinarians alike, not to mention the equine world itself, owe him a debt of gratitude for his dogged perseverance in the face of much discouragement and many difficulties. Let us all do our best to help him to work the matter to a finality, and let us make this an absolute, and so far as possible, a universal and uniform success.

During the delivery of his paper, Prof. Hobday, who had previously given a demonstration of the operation at Messrs. Hartley's yard at Friar Lane, read the following letter:

41, High Street, Dorking.
October 16th, 1911.

Dear Hobday,—I thought you would like to know how the chestnut horse is that you operated on for roaring before the S.C.V.S. He has been turned out about six months. I have had him in from grass about a fortnight and have driven him, but the ground has been too hard to give him what I call a distressing gallop. I have trotted him fast up some of our worst hills here, and all I can hear is a slight roughness. This young horse was a confirmed roarer, but I anticipate from the trial I have given at present that he will be a complete success.—Yours faithfully,

C. W. HOWARD.

Prof. HOBDAY was loudly cheered at the conclusion of his paper, and on the motion of Mr. C. Hartley, seconded by Mr. Rudkin, he was unanimously elected an Associate of the Lincolnshire Society, Mr. Hartley remarking that that was the highest honour they could confer upon him.

The PRESIDENT, in conveying the thanks of the members to Prof. Hobday, said that gentleman had probably had more experience in operating on horses than any other man, and they had been delighted with his operation to-day.

Mr. GOOCH seconded the vote of thanks, and said he had been pleased to be a witness of Prof. Hobday's skill as a surgeon that day. He did not think any man could have given such an anatomical display unless he were a good anatomist. Every detail had been carried out that day in a most minute way, and the paper Prof. Hobday had given them had been most concise and to the point. There was no doubt the operation had come to stay. It would be a relief to owner and animal, and he thought it should be persisted in, and that they should bring it to a finality to help their brethren across the Atlantic. Indeed, he thought the operation should be taught in their schools.

Mr. C. HARTLEY asked to be allowed to add his thanks to Professor Hobday for his masterly exhibition of surgical skill, and for the extremely lucid way in which he had explained the operation. They would keep a daily diary of the effect of the operation and duly report results.

Mr. G. B. DICKINSON said that as a Society they should be very proud in having the opportunity of seeing the operation performed, and they owed their thanks to Professor Hobday for the surgical detail he had gone into. How did they stand, he would like to know, with their clients when they found a horse had been operated on in this manner? Would they be justified in saying such a horse was sound, or were they in duty bound to say the animal had been operated on for some throat affection?

Mr. G. LOCKWOOD said he felt very pleased that he had been privileged to witness the operation under such favourable circumstances and with such a skilled demonstrator, and at the same time their thanks were due to Mr Hartley for his cordial reception that day. He should like to ask Prof. Hobday if he had any difficulty in administering the anæsthetic in cases where he performed tracheotomy.

Mr. J. MACKINDER said that was not the first operation of the kind he had seen performed, for he remembered it being done by Capt. Smith at Newcastle, and by Prof. Axe. He should be glad to hear of the results in this case, and he hoped the operation would be effective. He was getting older, but he hoped to live to see younger men with more nerve performing the operation.

Mr. RUDKIN also congratulated Prof. Hobday on his operation, adding that he wished they all had his operating skill.

Mr. HARTLEY said some people did not speak favourably of the operation, but he felt convinced it should be persisted in.

Prof. HOBDAY remarked that the fact that owners were satisfied with the results of the operation was a great point in its favour.

Mr. RUDKIN asked how they would stand in a Court of Law with regard to an animal which had undergone such an operation? Could they pass an animal as sound that made any noise whatever?

Mr. DICKINSON thought that an important point. If they found any indication of the operation having been performed on an animal were they justified in passing it as sound.

Mr. RUDKIN: If it makes no noise you pass it for wind.

Mr. HARTLEY said if he knew a horse had had an operation and was sound in his wind he should say so, but he could not pass him as sound. He might say there was no evidence of unsoundness, but that he had lost his mucous membrane.

Mr. ROUTLEDGE said he had a similar operation on a six-year-old horse 15 months ago which grunted if a fly got on him. He still made a noise, but he was neither a whistler nor a roarer. He was three miles an hour better in speed. The noise he made was neither inspiratory or expiratory. He certainly made a noise before, but now was a good hunter.

The PRESIDENT said he had been connected with five or six horses which Prof. Hobday had operated upon, and generally the operation had been an unqualified success. He thought that affected horses should be operated on when young. As to giving a certificate after an operation, he thought if they found a horse was subsequently sound in his wind, then no judge could find fault with them. They owed their thanks to Mr. Hartley for use of his yard and to Mr. Lockwood for producing the subjects they had had that day.

Prof. HOBDAY, in reply to Mr. Lockwood's question, said he generally gave the anæsthetic in cotton wool on the tubes. It was not absolutely necessary to give chloroform. If a horse was no better he was no worse after tracheotomy. He had just returned from a trip to America and Canada where the operation was very highly spoken of, and he knew cases where the value of the horse treated had been increased. As to any legal point which might arise he thought that where a horse had been operated upon the owner or purchaser should be apprised of the fact. He had known four cases where ossification of the larynx had set in, but he did not think it would after six months. If he came across a good horse that had been operated upon he should tell the prospective owner and advise him to buy him.

Mr. HARTLEY: But you must give documentary evidence.

Prof. HOBDAY: Then you may say he is sound.

Mr. HARTLEY: But is he a sound and perfect animal?

Prof. HOBDAY: Is any animal a sound and perfect animal.

Mr. HARTLEY: But can we say so?

Prof. HOBDAY: Take a horse with a splint. You make him sound.

On the proposition of Mr. Dickinson, seconded by Mr. Hartley, Prof. Hobday was heartily thanked.

Mr. J. MACKINDER proposed a cordial vote of thanks to Mr. Hartley for the accommodation he had given the Society, which was carried with acclamation; Mr. Hartley saying they were perfectly welcome to any service he could render.

The meeting closed with a vote of thanks to the President, who expressed his pleasure at the great success of the meeting, and the company adjourned for tea.

C. W. TOWNSEND, *Hon. Sec.*

Deaths from Acorn Poisoning

At one farm near Market Drayton five animals have succumbed, four at another, and three at a third, while several single cases are reported. The acorns are unusually plentiful this year, and, grass is scarce. Only a few affected beasts recover. *M.T.J.*

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax. Outbreaks Confirm'd	Anthrax. Outbreaks Reported	Anthrax. Animals Confirm'd	Anthrax. Animals Reported	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders (including Farcy) Outbreaks	Glanders (including Farcy) Animals.	Counties Affected Animals Attacked	Sheep Scab. Outbreaks	Swine Fever. Outbreaks.	Swine Fever. Slaughtered. *
GT. BRITAIN. Week ended Oct. 28	13		14				11	24		1	45	960
Corresponding week in 1910		32		39			4	12	Essex 7	2	41	486
Corresponding week in 1909		25		28			10	20		3	28	252
Corresponding week in 1908		19		21			11	29	London 13	8	32	213
Total for 43 weeks, 1911	723		892		18	467	177	419	Middlesex 4	316	2081	24815
Corresponding period in 1910		1206		1432	2	15	317	923		361	1214	11187
Corresponding period in 1909		1072		1407			453	1588		492	1413	12699
Corresponding period in 1908		899		1189	3	112	684	2113		660	1720	10545

Board of Agriculture and Fisheries, Oct. 31, 1911.

	Parasitic Mange (outbreaks)											
IRELAND. Week ended Oct. 28	...	...	...	...	...	...	1	4	1	28		
Corresponding Week in 1910	...	2	2	...	...	...	...	...	...	7	1	...
Corresponding Week in 1909	...	...	...	...	...	...	...	...	...	7	...	...
Corresponding Week in 1908	...	...	...	...	...	...	...	...	...	5	3	22
Total for 43 weeks, 1911	...	7	14	...	...	2	3	53	281	112	1923	
Corresponding period in 1910	...	7	10	...	...	1	2	82	382	78	1778	
Corresponding period in 1909	...	8	8	...	...	...	...	69	323	86	1561	
Corresponding period in 1908	...	7	10	...	...	...	...	34	293	151	3491	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 30, 1911

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Changes at the Board of Agriculture.

Earl Carrington has retired from the presidency of the Board of Agriculture, and takes up the office of Lord Privy Seal, while Sir Edward Strachey, the Parliamentary Secretary of the Board, is elevated to the peerage. The new President of the Board is the Right Hon. Walter Runciman, formerly President of the Board of Education, and the new Parliamentary Secretary is Lord Lucas, who has occupied the positions of Under-Secretary of the War Department and Under-Secretary for the Colonies.

There is no doubt that in Earl Carrington and Sir Edward Strachey agriculture possessed two influential representatives on whom much work has fallen as the result of recent developments. Both are practically acquainted with the industry which they represented, and on the most important subjects it was safe in their hands. They may have differed in some of their views, but were agreed on leading questions. They were agreed as to the importance of live stock, and it is certain that their power and influence were used to prevent unnecessary dangers of disease from imports. One reads that Lord Carrington incurred opposition in some quarters because he would not force on the scheme for extending small holdings beyond what in his opinion was safe. To practical agriculturists the idea rather is that, proceeding in the light of his personal and exceptional experience, he placed more reliance on the extension of the small-holdings system than is justified under the conditions existing in the country. Apart from this, Lord Carrington is one of the most enlightened and experienced landowners in the country, and his views on any agricultural subject must always command respect. Sir E. Strachey has always held sound views on most agricultural matters. He is personally well acquainted with the subject, and is in close touch with the agriculturists of the West of England. On dairying matters especially his opinions are always reliable, and in fact one can generally recognise in his utterances a well-informed judgment. Both these public men have rendered good service to agriculture, and their influence will doubtless continue to be exercised in favour of its claims.

It will be so far an advantage, however, to again have the President of the Board in the House of Commons. Mr. Runciman, the new President, is little known in connection with agriculture, but he is a brilliant member of his party, and it is quite probable that his work at the Board of Education may stand him in good stead in the new office, as one of the aims of the future is evidently to be to systematise agricultural education. Lord Lucas, the Parliamentary Secretary of the Board, has had experience at the War Office and at the Colonial Office. He is also an agriculturist and a successful exhibitor of live stock.

It is to be hoped that the new appointments do not indicate any great change of policy, but rather a careful and vigorous carrying out of the methods that have been pursued since the Board was instituted. In recent years, especially in connection with the Development Fund, the duties of the Board have been increased, but there has been so far nothing very revolutionary in its action, unless in the efforts to stimulate the small-holdings movement, as to the ultimate success of which there is considerable scepticism among those who know most about the practical business of agriculture. It will therefore be well to hasten slowly in the direction of the artificial creation of a class of occupiers who are not very well qualified to grapple with difficulties of adverse seasons and low prices. The existing laws against the importation of live stock diseases should be maintained and strengthened. What may be done in connection with the promotion of live stock breeding remains to be seen, but so far the lines that have already been laid down have been followed, and it is not likely that rash experiments will be tried. The work of the Royal Commission on Horse Breeding has been continued and expanded, but it is too soon to reckon up the results. The plan adopted in Ireland will probably be followed when a stimulus is extended to the improvement of other varieties of stock.

When the Board was instituted the chief aim of those agriculturists who supported the proposal and rendered it possible was to have in the House of Commons a Minister directly representative of the industry and responsible for his Department. Prior to that time the official representative was the Lord President of the Council, whose chief duty related to education. Sometimes an agriculturist of eminence was President, notably the late Duke of Richmond and the late Earl Spencer, and in these circumstances agriculture was efficiently looked after. But when the position was filled by a politician not in any way connected with the industry, and having little sympathy with it, the chances of adequate consideration were remote. It was to get rid of this uncertainty that the establishment of the Board was supported.

Under the old *régime* two branches had been developed in a highly satisfactory manner—the one dealing with diseases of animals, and the other with the collection and publication of statistics, and under the Board both have rendered excellent service. The Statistical Department has become one of the best in any country. No less will be said for the Veterinary Department.

Ministers may come and go, but the officers who under able direction carry out the important duties just referred to are those who give most assistance to farmers in the daily conduct of their business, though no doubt they are much helped and encouraged by the support and intelligent appreciation of the official heads of the Board.—*Live Stock Journal.*

GLASGOW VETERINARY COLLEGE
(INCORPORATED.)

ADVANCE IN VETERINARY AND MEDICAL SCIENCE.—Address delivered at the opening of Session by Dr. DAVID N. KNOX, President of the Royal Faculty of Physicians and Surgeons of Glasgow.

It gives me the very greatest pleasure to come here and give the introductory lecture to the students now beginning a new session at the Veterinary College, and that for two reasons. In the first place, as President of the Royal Faculty of Physicians and Surgeons, I wish to show the great interest which the Faculty entertains towards this College and the work of the veterinary profession, and, second, because about thirty years ago I was one of the professors of this college, and did what I then could to help your distinguished Principal to impart the necessary instruction to candidates for the M.R.C.V.S. It now gives me, after this long interval, very great pleasure to return even if but for an hour to this lecture room to congratulate Principal M'Call and you, the students, on the new era that has opened for the College, the greater facilities for instruction that have now been provided, and the new additions to the curriculum that have been made since my time.

MEDICINE AND SURGERY INDIVISIBLE.

All medical men who have ever been engaged in teaching or research—that is, all who have ever done more than merely try to make a living by their profession—know that the great science of medicine and surgery is one and indivisible, and that there is no gulf between human and veterinary medicine. There are specialities, demanding special technical instruction and

experience for their highest fulfilment in practice, but they are based on scientific principles and investigations, scientific methods of study and of treatment common to both. Further, each department of study on the human or veterinary side sheds the greatest light on the similar department of the other. As a former teacher of human anatomy I often found that some obscure structure in the human body was brilliantly illuminated when the details of the same structure in the domestic animals were fully investigated. In embryology especially was this the case, many of the details of fœtal life and structure being only possible of thorough examination and understanding when studied in animals. In all departments of veterinary medicine and pathology the same principle holds good. The veterinarian is constantly deriving benefit from the work of the human pathologist, as well as conferring benefits in return on his medical brethren. It is thus quite impossible to separate the two branches of study or to distinguish between the education of the two sets of practitioners. The veterinary surgeon must be as highly trained as the medical in all subjects common to him and the ordinary medical practitioner, while in the more purely special subjects of the veterinary surgeon he ought to be even more highly trained than the medical, if that be possible. This is an idea of mine formerly expressed, I think, in this very room, and I have seen no reason to change it. It is based on the fact that the veterinary surgeon gets no great assistance in diagnosis or even as to the results of treatment from his patients. They cannot tell him where they feel pain, or when their illness began, or what part of the body is affected. This must be found out unaided by the practitioner, guided by his scientific knowledge of anatomy, physiology, and pathology. It is thus obvious that to be successful in his work the veterinary practitioner must have a thorough scientific knowledge of his profession always at his finger-tips. The student must therefore seek while in the dissecting-room or hospital to imprint an accurate and lasting picture of what he sees in his mind. He must be able to put his finger on any part of his patient's body and tell what structures lie below, what are the normal functions of the tissues or organ, and when the slightest abnormality is detected, recognise the changes taking place with their local and general significance. To do this successfully requires high scientific attainments, supported and emphasised by large and wide experience. The same knowledge is required of the medical man, but his patients can often give him the greatest possible assistance by what they tell him and by the facility with which they can be examined. I think, therefore, you will see what a grand and noble profession the veterinary one is when practised as it should be, and what a great responsibility lies on all students so to spend not merely their days here at college, but their whole life in the endeavour to attain to this high standard.

No Bacteriology Thirty Years Ago.

In looking over the Calendar of the College I notice that there is a class now taught that was not taught in my time, viz., Bacteriology. Thirty years ago there was no science of bacteriology, in fact the whole subject was unknown. It is true that certain scattered observations had been made by different people at different times, but they were few and far between, and nobody had the slightest notion that they were or could be co-related. Lady Mary Wortley Montague, in her letters from Turkey, had told us more than a hundred years ago of the alleged value of inoculation of the poison of small-pox in reducing the dreadful severity of that then very common disease. But when inoculation was tried in this country it was found to be not only almost valueless but most dangerous, and had to be given up. Then Edward Jenner discovered the virtues of vaccination, and this is still practised, with the best results. No one till quite recently thought these two discoveries had any close relation to each other, still less that the failure of the one and the success of the other could be explained scientifically and as part of a general principle. The next observation of value in point of time was Pasteur's great discovery and demonstration of the nature of fermentation. It seems a great puzzle for anybody to believe that this process of fermentation had any relation to the processes of inoculation and vaccination—if it stood alone. But these three processes were the first shafts of light that heralded the dawn of the new science of bacteriology.

Lister's Discoveries.

Lord Lister, then a surgeon in our Glas ow Royal Infirmary, was the first who had the penetration to perceive that more lay behind Pasteur's discovery than even Pasteur himself had dreamt of. Pasteur was a chemist, and had attacked the problem of fermentation from the chemical side, though he soon discovered that the process was biological and not chemical. Lister was a great physiologist, and had, therefore, a wider outlook on biology than Pasteur had. He soon, by the aid of the microscope, was able to prove that the putrefaction of pus, so common in his practice then, was a similar or even identical process with Pasteur's fermentation. He then proceeded to reason out the process; he found that germs, or at least living particles, entered open wounds from the air and multiplied in the discharges, producing not merely a foul smell, but also producing a material that was absorbed into the blood vessels which set up fever, secondary abscesses, or foci of inflammation, and then death by poisoning of the nerve centres. Lister's knowledge, at least as expounded to us students by himself, was still very meagre. He still believed in "laudable" pus as a healthy excretion from certain tissues, and his first efforts in treatment were to prevent this pus from becoming putrid by the intrusion of germs or organic particles from the air. He frequently demonstrated these germs as movable vibratory bodies easily seen under a low power of the microscope. He then went a step further and excluded the "motes of the sunbeam" from any wound freshly made, and in many cases found that pus did not form at all, while in other cases it did form. These successes and apparent failures made him investigate the whole process of inflammation and suppuration anew, with most important results. This investigation was a long and complicated process—in fact at first a mere groping in the dark. His first endeavour was to secure healing of wounds by what some of you know is called first intention, that is, without any symptom of inflammation or the formation of matter, and after many experiments he proved that if the dust-laden air could be excluded from or filtered before it entered a freshly made wound no sign of inflammation or suppuration would be set up, and that the wound would heal most kindly and quickly even when operations of the greatest severity were performed, or were performed on tissues and organs like the peritoneum or the brain, which up till then it had been absolutely fatal to touch with a knife. He proved that the skin of the patient and the atmosphere around were full of germs, called in a general way bacteria, and that if these could be killed or removed thoroughly the surgeon could almost do what he liked in the way of successful operations. This was the theory of what he called antiseptic surgery.

Lister soon found, however, that his system was not perfect in practice, however perfect it seemed in theory. His methods were far from being sufficient in spite of the ingenuity and skill exercised in devising them. A great deal of the success of the operations seemed to depend on the health and varying powers of resistance of the tissues, as well as on the atmosphere and even the kind

of building in which an operation was performed. Further, it was found that in suppuration occurring without any apparent external wound, the pus contained in such abscesses, while it might not contain any of the germs of putrefaction, contained other germs of different types, and which could only be found by the use of very high powers of the microscope. Such germs were speedily shown to have obtained entrance to be body by means of the air passages or other natural channels, and so to have permeated the whole body. Their presence weakened the tissues or found a nidus in some injured spot, especially in a wound, and these developed so rapidly as greatly to interfere with the success of the surgeon's work. To counteract this and other possibilities leading to the entrance of germs to wounds, Lister methods were gradually improved, especially by continental surgeons. The body of the patient, the hands of the surgeon, his instruments and dressings were sterilised. New operating theatres were built which had never been polluted by septic materials, and the new era of Aseptic Surgery was introduced.

Let us again return to putrefaction. On this process being more carefully examined, especially in the light of further investigations, by Pasteur and the experiments of Lister, it was seen that a great variety of germs were concerned in it. Further, that many of these germs were able to live in the bodies of men and animals, and therein to give rise apparently to various forms of disease. Immediately pathologists in all parts of the world set to work to elucidate the life histories of these germs and to classify them according to their more important differences. Such observations were astonishingly rich in results. Certain diseases, called hospital diseases, were at once explained as the result of the intrusion of certain germs into the body. I refer to such diseases at erysipelas, blood-poisoning, diphtheria, tuberculosis, and anthrax both in man and animals. Inflammation was seen to be in the beginning a reaction against the intrusion of such germs, while the death of tissue and suppuration indicated the failure of such reaction and the intoxication of the system or the tissues by the powerful virus produced by these germs. Further, such germs were found to be transmissible from man to man, some from animals to men, and others from men to animals. Such transmission enlightened us as to the meaning of infection and contagion, words that had for long been used vaguely and ignorantly, but now became precise and scientific. By the word scientific I mean that our knowledge is now based on facts and no longer on theories that the discoveries of to-morrow may require us to give up and unlearn. Our knowledge is being added to every day, and is far from being complete in any respect. Every observation and experiment made is immediately repeated by other observers and experimenters and approved or disproved or explained. One great source of information as to the nature and relations of germs comes from the results of cultivation. It was a great discovery when we found out that germs could be taken from the body and cultivated on a suitable soil in a suitable atmosphere and temperature. They could thus be isolated, their growth and development watched, and their effect when in the pure state they were injected into the living and healthy body. Then only it became possible to say definitely that certain diseases were always due to the growth in the body of certain germs; that the intrusion of a given germ, such as tubercle, would always produce some form of tuberculosis, and would produce no other disease; that in the same way the germ of anthrax, if inoculated, would certainly produce anthrax and nothing else. We then know in our medical practice that if a number of people are affected with small-pox that the disease is due in all the cases to the contagion of small-pox and to no other germ, and the medical officer of health at once acts on this knowledge in his efforts to combat the disease.

Another curious result from cultivation was arrived at. One would expect that after cultivation, by getting rid of impurities during the process, that the virulence of the poison *pro tanto* would be increased; and that is so. But if you take some of the first cultivation, put it again in a suitable medium, and cultivate it a second time, in is found that the poison is less virulent than before, and gets less and less virulent with each succeeding cultivation. In some cases these cultivation experiments can be performed in the bodies of animals with like results, the poison becoming less virulent in the second animal than in the first, and still less virulent in the third. This principle has always been employed in the case of vaccine matter. At first each child was vaccinated from another child, but now for obvious reasons it is found to be better to use the calf as the intermediary. The plan of producing a milder virus in this way is called the *attenuation* of the virus, and it is found in practice that a weak virus may be injected into a healthy animal without producing any marked effect. But on experiment it is found that an animal so treated is no longer susceptible to the stronger virus; that is, an animal which might have been killed by a dose of strong virus will suffer but little if, previous to this injection of a strong virus, the animal has been treated by the injection of the attenuated virus. Such an animal is therefore said to be immune or protected by these mild injections. This is a most important principle, and has given rise to many of the processes adopted by surgeons and veterinary surgeons in the diagnosis and treatment of infective or contagious diseases.

Toxins.

In producing this immunity the fluid filtrate from a culture of the germ is generally used, and is called the toxin. After the injection of a toxin into the body of an animal, and especially after several such injections, it is found that in the blood serum of that animal substances make their appearance which can neutralise the poisonous action of the toxin. These substances are found in the serum, and this serum, so enriched after being separated from the clot, is made use of as an antidote to the toxin, and is called the anti-toxin in popular language. The toxin of a disease may be produced in the body of the animal, producing all the symptoms of the disease, but when the antitoxin is timeously injected the toxin may be neutralised and the symptoms subside. We often see this in diphtheria. In the case of diphtheria the animal used to produce this antitoxic serum in the horse, because a large quantity of serum may be obtained from a horse's blood, quite a number of which are maintained at the Institutes now established for the production of the various serums. A horse in perfect health is taken and is slowly habituated to the action of the toxin, beginning at first with very small doses of a weak toxin, and gradually day by day injecting larger doses of stronger toxins. By careful watching experienced observers know when the blood serum has reached its highest antitoxic value, and then the animal is bled from the jugular vein to the limits of safety. The serum is then separated under most rigid antiseptic precautions, and bottled up. The animal is then allowed a few months to recover, and then the process is repeated again and again. The valuable therapeutic fact is thus learnt that not only is the animal subjected to this process immunised, but if some of the serum is injected into another animal it also will be immunised. This forms the foundation for what is becoming a great department of therapeutics, equally applicable to men and animals, and usually spoken of as Serum Therapy.

Immunity in Animals or Man.

I do not wish you to suppose that in *every case* in which we have isolated and cultivated the disease germ that we have as yet obtained a neutralising serum or

produced immunity in animals or man. The typical process, as given here, is true of diphtheria, typhoid fever, and in a less degree of tetanus—that is, immunity in tetanus may be obtained in animals, but only to a very slight degree in man. There is yet an enormous amount of work to be done to fill up the gaps in our knowledge, but when you think of the multitude of investigators who are engaged on the work, with the almost daily reports of successful experiment, it certainly cannot be long before further results of the utmost practical value to surgeons, physicians, and veterinarians are attained. This is a research that must be especially valuable to members of your profession in the immediate future. At present you are using what are probably the best, if not the only practicable, methods of controlling infective or epidemic diseases, by stamping them out by the very expensive and wasteful slaughter of infected animals. I saw a notice not long ago in the papers of a small epidemic in England being thus stamped out by the slaughter of 62 cattle. No one can call this a scientific method of treating disease. It is merely a makeshift to prevent a much greater loss, but it is after all only a testimony to our ignorance. It only requires steady, persistent investigation on what are now well-known lines, and the secret will be discovered whereby present expedients will be made unnecessary. the public health of the community freed from present dangers, the owner's pocket saved, and the veterinary surgeon reap a splendid pecuniary reward. I hope, therefore, that what I have said will excite your sympathy and stimulate you to join in the work of investigation and experiment. I have laid before you a very few of the points of a most fascinating story. The work done so far is the first volume only, so to speak, of a system of preventive medicine that seems likely before long to completely remodel the work, both of physicians and veterinary surgeons.

Malta Fever.

Another point in the life-story of disease germs is the paths by which they obtain entrance to the animal body. First, some obtain entrance through the air passages from the atmosphere. This is the case with that common disease called "influenza," the very name of which embodies the theory of its mode of infection. The same is also true of most of our specific fevers. The tubercle bacillus also in many cases may enter by this path, though owing to its universality it has other channels open to it. As tuberculosis is one of the diseases communicable from animals to man, a large number of cases of this disease in man arise by being carried by milk or other articles of diet into the alimentary canal, and thence spreading throughout the system. In preventing both of these methods of infection lies a great part of the work of veterinary surgeons and medical officers of health. With reference to the infection through milk I would like for a moment to refer to a quite recent discovery. There has been a fever known for at least 2000 years as occurring in Rome, Naples, Malta, and other places on the shores of the Mediterranean, and popularly known as Malta fever. The cause of this could not be discovered, and after much observation and elimination of all known causes it was only in 1887 that suspicion fell on the goats,* of which there are great numbers in the Island of Malta, and whose milk was commonly supplied to the inhabitants by the goat being milked before the door, so as to secure purity and freshness and to prevent any suspicion of contamination. An army medical officer, Col. Bruce, investigated the goats' milk, and proved conclusively that the fever was due to a germ contained in the milk. He further showed that about 50 per cent. of all the goats in the island were affected with the disease, and were giving off the germs in myriads in their milk. Bruce's observations and experiments have been repeated by many others, and now there is no doubt as to the cause of Malta Fever. Henceforth no tourist landing for a few hours to see the famous island while his ship is coaling need fear to catch a fever that was for centuries supposed to be endemic, and which was practically universal among the permanent residents.

* It was nearly 20 years later that this connection was demonstrated.

Mosquitos.

A still more interesting discovery was that mosquitos, which haunt all tropical marsh lands, lakes, and rivers, were the means of conveying the germs of malarial fever, from one man to another. Malarial fever is, as you know, the great scourge of all tropical climates, and the discovery has not only led to successful efforts being made for its prevention and treatment, but has also opened up further fields of research into the causes of yellow fever, sleeping sickness, and numerous other tropical diseases, both of men and animals. Here let me say that a young friend of my own who was holding an appointment in the Cape Mounted Police, South Africa, and frequently witnessed the work of veterinary surgeons inoculating cattle and horses against infective diseases, became so interested in the work that he threw up his appointment, and came home to study for the veterinary profession. He was a student in this College for one year, and then went to London. He returned after he got his diploma to South Africa with a Government appointment of much value. He has now gone to New Zealand, and is one of the principal veterinary surgeons of that progressive colony, and in Government employ.

A Suggestion.

I think I have now said enough on this part of my subject. I have merely adverted to a very few points, and that in the briefest possible way. I have tried, as I said, to engage your attention and excite your imagination over a very wonderful story of a department of medical study which lies at the basis of all true progress in public health. My remarks may furnish another moral, and give a hint, not so much to the students as to the governors of this College and to the veterinary profession, including the students. You know that in the medical profession we have a body of men who have undergone a special training, and have obtained a special diploma of Public Health, and who are the recognised officers of Public Health throughout the country. I would like to suggest that a similar body of veterinary D.P.H. should be instituted by your Royal College of Veterinary Surgeons. I am well aware that there is a Society already in existence called the Association of Veterinary Officers of Public Health—a Society that is doing, and has done, most excellent work in various places. I have no wish to depreciate the members of that Society. They are in the same position, however, that the early Medical Officers of Public Health were in Glasgow forty years ago—the period when the late Sir Wm. T. Gairdner and Dr. J. B. Russell were at the head of health matters, and who began the work that has since been so worthily carried on by their successors. These men were giants, and did giants' work. The ordinary medical practitioner is no more able to carry on their work successfully without speeial training than he can fly without a special aviation car. Your Association of Veterinary Officers of Public Health has doubtless great men among its members, fitted in every way for their work by their own self-training, but I am sure your profession would be as much benefited by a specially trained class of health officers as ours has been. I had the opportunity of reading a few days ago the proceedings of your Society at its annual conference in Edinburgh, and I was struck by the knowledge of the various Acts relating to byres, cowsheds, and dairies possessed by the

speakers, by the accuracy and fullness of their reasoning as regards meat and milk inspection, and the relations of animal diseases such as tubercle to the general health of the community. I also saw, however, that the various speakers felt that for the success of their work something more was wanting. The Chairman suggested that as regards the inspection of meat "he felt confident that in time, as posts fell vacant or as public bodies became educatad to the vast difference that existed between the man who had made a study of human diseases and the man who had made a study of animal diseases, especially those communicable to man, then they would see a change in the type of man appointed to supervise meat inspection." Now there is a great deal of truth in all that, but is it the whole truth? Are all veterinary surgeons, however skilled they may be in the diagnosis ane treatment of animal diseases, equally skilled meat inspectors? I don't think Mr. Robb would say that they were. There is more awanting than that veterinarians should be appointed meat inspectors. Mr. Lindsay put his finger on the spot when he said, "In order that the district inspectors would be able to confirm their diagnosis in doubtful cases, a laboratory ought to be established' by the central authority at some convenient place.' This gives the whole difficulty away by admitting that there are doubtful cases where no man, however experienced, can with the naked eye and unaided by more scientific tests, recognise all incipient cases of disease, or should be trusted to pass milk or carcases as in all cases fit for human food. Scientific laboratories are an absolute necessity of efficient inspection, and my proposal comes to this—that we should have a class of veterinary surgeons especially skilled and capable of working in such laboratories. I am afraid that at present, and for some time to come, the officials in such laboratories would mostly require to be found in the ranks of Medical Officers of Health. In fact, I do not see where else properly trained bacteriologists could be obtained, and until the veterinary profession wake up to the necessity of providing such training for their inspectors this difficulty will exist.

An Alternative.

If the veterinary surgeons here to-day think this too big an order to execute all at once—I mean to institute a veterinary D.P.H.—there is an alternative that might be easier of execution and which I should like to see this college undertake. It is to institute what might be called post-graduate courses in Public Health where veterinary surgeons might come and receive special practical training in public health work to fit them for special posts as inspectors, etc. This would require the setting up of a public health laboratory where specialised instruction in chemistry and bacteriology might be given, and this could be followed by a practical examination on the subjects taught. In every medical school there are such laboratories, and to a large extent they may be made self-supporting. Whether other subjects than these I have mentioned should be included in such a course will form matter for future consideration and arrangement, but the two subjects that I have mentioned seem of paramount importance, and they cannot be learnt from books or Acts of Parliament. I would like to see this college undertake such work, as I have not the slightest doubt it would redound to the credit of the college and increase the numbers of its students. Other colleges would be compelled to follow suit, and then the way would be paved for action by the R.C.V.S., and the granting of a diploma that would mark out its possessors as belonging to a specially high grade of the veterinary profession. I am the more inclined to make this suggestion as there can be no doubt that the number of inspectorships in this country is bound to increase, and the more lucrative posts will go to the most highly-qualified men, while abroad there is certain to be an enormous demand in the future for veterinary surgeons, and there each man will require to have his own laboratory and be capable of doing all the work himself. What a splendid training for such work would be a six-months' course of laboratory work at a recognised college like this and under competent teachers!

[We are indebted to the Editor of *The North British Agriculturist* for advance proofs of this report.]

College Crest Appeal Fund.

Amount already acknowledged (Sept. 2)	£19	6	6
North Wales Veterinary Society	3	3	0
South Durham and North Yorks. V.M.A. per Mr. J. H. Taylor	1	1	0
Sir John M'Fadyean	1	1	0
Mr. T. Salusbury Price	1	1	0
W. R. Williams		10	6
Messrs. D. & G. Adamson	1	1	0
Mr. H. W. Caton	1	1	0
W. J. Watt		10	6
J. Sutcliffe Hurndall	1	1	0
Joseph Temple	1	1	0
Wm. S. Stevens	1	1	0
Alfred Holburn	1	1	0
J. G. Runciman	1	1	0
Prof. Fred. T. G. Hobday	1	1	0
Mr. Sidney G. Nye		10	6
James Buxton	1	1	0
Wm. Dobie	1	1	0
H. B. Eve		10	6
	£38	4	6

Personal.

The Sanitary Committee of the Reigate Town Council reported that applications for the post of Veterinary Inspector of Cows had been received from :—Messrs. Walter Smithers, Dorking; Arnold Spicer, Oxted; and Chas. A. Squair, Reigate. The Committee recommended that Mr. Charles A. Squair be appointed. Mr. Squair has been veterinary inspector for 17 years.

We understand that there were 17 applicants, and the 3 mentioned in *The Surrey Mirror* was short leet

MOTOR CARS AND VETERINARY PRACTICE.

Sir,

In last week's issue of *The Veterinary Record* Mr. Taylor has been good enough to supply you with a short summary of one year's cost of running an 8 h.p. two-seater "Renault" car over 6750 miles.

This summary is altogether too short, and I would suggest that Mr. Taylor should complete the picture, so that it might be a reliable guide to those veterinary surgeons who contemplate purchasing a car.

As published, the account shows a running cost of less than 2d. per mile, but this will be more than doubled when he adds £50 for depreciation, £10 for interest on purchase price, and £15 for a man to wash up and trim the car.

I presume Mr. Taylor's car was new when bought, and anticipate that, like others, he will have cause in each succeeding year to considerably extend the amount under the item "sundries,"—Yours faithfully,

Hugh Broc.

Hamilton, Oct. 30.

Communications for the Editors to be addressed 20 Fulham Road, London, S.W.